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Hearing Date: March 21, 2007

Attorneys for HB Performance Systems, Inc.

**UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK**

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In re:	:	
	:	Chapter 11
DELPHI CORPORATION, <u>et al.</u> ,	:	
	:	Case No. 05-44481 (RDD)
Debtors.	:	
	:	(Jointly Administered)
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**DECLARATION OF RUSSELL A. DUDAN IN SUPPORT OF
HB PERFORMANCE SYSTEMS, INC.'S SUPPLEMENTAL RESPONSE**

I, Russell A. Dudan, declare pursuant to 28 U.S.C. § 1746 and under penalty of perjury
that the following is true and correct:

1. I based this declaration on my personal knowledge of the facts and circumstances
attested to herein.

2. I am the Vice President, CTO, GM Aftermarket Products of HB Performance
Systems, Inc. (f/k/a Hayes Brake LLC) ("HB") and have held the position of Vice President and
CTO since June of 2003.

3. I have been the person at HB who is responsible for managing the engineering

and related services provided by Delphi Automotive Systems, LLC under the terms of the August 1, 2002 Agreement that is the subject of this bankruptcy claim made by HB (the "Agreement") since the Agreement was signed.

4. By way of history, Delphi and HB entered into the Agreement as the result of Harley-Davidson's announcement that its goal was to use a sole U.S. based brake system manufacturer for all of its brake system platforms including those that would incorporate anti-lock brake systems ("ABS"). Harley-Davidson suggested to HB that, because of Delphi's technical capabilities, cost modeling efficiencies and experience with ABS, among other things, that HB work with Delphi in connection with its efforts to become Harley-Davidson's sole U.S. based brake system manufacturer.

5. Beginning in August of 2002, I began working with Delphi under the terms of the Agreement to support the HB development of a brake system that would fulfill Harley-Davidson's requirements. In addition, HB promoted the Delphi ABS brake system (which would be coupled with an HB brake system platform) to its contacts at Harley-Davidson which it had developed over the years of its relationship as a Harley-Davidson brake supplier. Also, HB shared information and experiences with Delphi which accelerated their understanding of motorcycle brake systems.

6. In early 2003, HB and Delphi learned from Harley-Davidson that HB would not get 100% of the 2007 Harley-Davidson Platform.

7. Upon learning this, Mr. McNally initiated discussions with Delphi to renegotiate the Agreement as required by the Compensation provisions thereof. The concern, as anticipated in the Agreement, was that since HB did not get 100% of the 2007 Harley-Davidson Platform, it

would not be able to get the “average of 10,000 hours per year” of Delphi engineering and related services required thereunder.

8. Despite efforts to renegotiate the Agreement, Delphi assured HB that it would still be able to get the requisite average of 10,000 hours per year of services, that the parties should continue to work together to jointly convince Harley-Davidson that it should use the Delphi ABS system and the HB brake system platform on certain of its motorcycles including the Softail and the Dyna.

9. As a result of Delphi’s refusal to renegotiate the terms of the Agreement and its insistence that it could provide HB with the requisite engineering services required under the terms of the Agreement, I continued to work with Joe Elliott, my counterpart at Delphi, on the ABS system as well as on promoting the Delphi ABS brake system to Harley-Davidson.

10. Joe Elliott and I met every other week (in person or by telephone) to discuss the work the parties were doing pursuant to the terms of the Agreement. Mr. Elliott created an Action Item List which was updated and which reflects all of the projects undertaken by the parties under the terms of the Agreement. A true and correct copy of that Action Item List is attached as Exhibit A.

11. Notwithstanding efforts by both Joe Elliot and myself to be creative and find ways to use the average 10,000 hours per year of engineering services Delphi was obligated to provide under the Agreement, as HB anticipated, the fact that HB was not going to get 100% of the 2007 Harley-Davidson Platform made it virtually impossible to find enough ways to use the Delphi hours.

12. On June 30, 2004, I accompanied the President of HB, Rand McNally, to a meeting with Delphi representatives to discuss the fact that, despite Delphi's representations to the contrary about being able to find ways for HB to use the engineering services for which it was paying, Delphi was simply not able to provide an average of 10,000 hours per year of such services.

13. To make matters worse, in July of 2004, Harley Davidson announced that it was going to use one ABS supplier for all of its brake platforms. At about the same time, HB learned that Delphi was working with HB's competitor, Brembo, about providing ABS systems using the Brembo brake system platform, as opposed to the HB brake system platform, to Harley-Davidson.

14. At the June 30, 2004 meeting, Delphi promised that it would refocus its efforts to find ways to provide the requisite services to HB. Joe Elliott and I continued to meet every other week for 3-4 hours and to work on how to get more out of the relationship. There were 100 different Action Items open on the Action Item list. For example, Delphi worked with HB on up-fitting snowmobiles and ATV's with ABS brakes, Delphi personnel took benchmarking trips to HB and visa-versa, and Delphi sent employees to HB to provide training in areas such as VSM and brake system design.

15. In some instances, Delphi provided the services (also referred to as "deliverables") HB requested. In other cases, it took longer than acceptable timeframes to get them. In yet others, the deliverables took over a year. Some were never completed. Unfortunately, any time a project had to go outside the engineering side of the Delphi business, it did not get done in a timely manner, or at all.

16. Again, despite these efforts, HB was not getting even close to an average of 10,000 hours per year of services from Delphi. Yet, by December of 2004, it had paid close to \$2,000,000 to Delphi under the terms of the Agreement and it could not pay any more and not get the requisite services.

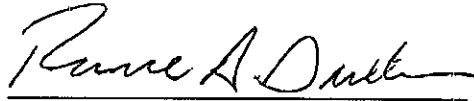
17. In February of 2005, the parties met, again, in an attempt to determine how to get an average of 10,000 hours per year of services from Delphi as required by the terms of the Agreement. At that meeting, Delphi committed to provide a plan within 30 days for how they would accomplish that.

18. By March 15, 2005, I had not received such a plan and, in an effort to move things forward, on April 6, 2005, I prepared one and sent it to Kirk Wan at Delphi.

19. During April and May of 2005, I communicated with Delphi about the plan I had proposed but we were unable to reach an agreement about how the hours Hayes had already paid for would be "made up" or how Delphi would provide an average of 10,000 hours per year thereafter.

20. I calculated that HB had paid for 17,781 hours for which it did not receive any engineering or other services (or related deliverables) from Delphi. I excluded the ABS hours for which HB had paid because when Delphi went to work on an ABS system with Brembo, HB's competitor, in June of 2004, HB lost the only leverage it had to sell its brake system platform with the Delphi ABS to Harley-Davidson exclusively. As a result, all of the time and money spent on services related to ABS were completely lost to HB due solely to the conduct of Delphi.

Dated this 8th day of February, 2007.

A handwritten signature in black ink, appearing to read "Russell A. Dudan", written over a horizontal line.

Russell A. Dudan

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Last Review Date (for New/Closed) 3/3/2005
Due with x Days Filter 7

Hayes Brake / Delphi Action Item List							
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority
1	3-May-02	ABS	C			CLOSED	
							Current Hayes Brake system uses DOT 5 brake fluid. Need to work with HB to get demo bike converted to DOT 3 to be compatible with current DBC7.4 seals.
							Need to determine if DBC7.4 can use DOT4. If so, we'll use DOT4 instead. Either is possible at HB (will put new brake components on bike and then fill.) Demo bike to be built with DOT4, will switch to DOT5 if possible and appropriate.
							Kopka / Elliott
2	3-May-02	ABS	C			CLOSED 8/22/02	
							Develop initial spending timeline (for gear, training, equipment, etc.) to present to Foster for approval.
							Information presented, waiting for approval.
							Fulmer / McCready / Sonnenberg
3	3-May-02	ABS	C			Closed 5/23/02	
							Work with HB to schedule regular PDT's.
							McCready
4	3-May-02	ABS	C			Closed 5/16/02	
							Determine availability of Saginaw-owned enclosed trailer.
							Saginaw trailer is available to us when it is not in use. Extended trips do not appear to be possible, but two to three day trips would probably work. Trailer is 24' x 8', has car ramps for rear entrance, and a flat ramp for front entrance (drive-on/drive-off).
							Sonnenberg
5	3-May-02	ABS	C			CLOSED 8/15/02	
							Design/build an active WSS interface box for DBC7.4
							Kopka reported that interface box isn't necessary for WSS signal, but is necessary for interfacing the sensors to the ECU. Built 8/13.
							Kopka
6	3-May-02	ABS	C			Closed 5/16/02	
							Setup review with HB to start competitive evaluations at TRC.
							Meeting scheduled for 5/23 at HB in Milwaukee.
							McCready
7	3-May-02	ABS	C			Closed 5/16/02	
							Discuss test plans / requirements with TRC (Dennis Grisez)
							Trip to TRC on 5/9. See email from T. McCready for details.
							Sonnenberg
8	3-May-02	ABS	C			Closed	
							Evaluate outrigger possibilities.
							HB providing a sidecar for the development bike to meet TRC requirements.
							Sonnenberg
9	3-May-02	ABS	C			CLOSED 9/5/02	
							Present safety/training proposals to Foster for approval. Add max speeds to matrix.
							Showed matrix to Foster on 5/8. Need to have follow up review. Added max speeds where needed.
							Fulmer / McCready / Sonnenberg

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
10	3-May-02	ABS	C			Closed		Obtain CSG project number for demo bike development.	First attempt at CSG Staff review on 5/13. Should be approved with revised info at 5/20 Staff meeting. Project approved.	McCready
11	16-May-02	ABS	C			CLOSED 8/15/02		Obtain license at TRC. Need to find out when classes are offered. See if Dennis Grisez can put together a special orientation on 6/20 or 6/21 for our group.	Classes held 2nd and 4th Tuesdays. Need to get Jay Lers and Lee Schultz on list. Non-Delphi people cannot get licensed.	Fulmer / McCready
12	16-May-02	ABS	C			CLOSED 8/15/02		Check on availability of Superbike School	Signed up for two-day course 9/5-9/6 at Streets of Willow.	Sonnenberg
13	16-May-02	ABS	C			Closed		Find your MFMSF card!!!!	Can't find card - R. Dudan turned in COV paperwork and hasn't heard anything.	Fulmer
14	16-May-02	ABS	C			Closed		Talk to Steve Thomson about sensor coordination meeting.	Meeting to be held 5/31. Weekly reviews with Juarez to discuss.	Kopka
15	23-May-02	ABS	C			Closed		Determine if we can use DOT4 brake fluid in demo bike, or if we need to stick with DOT3.	DOT 4 OK, will be used for demo bike.	Elliott / Georgin
16	23-May-02	ABS	C			CLOSED		Determine if demo bike can be delivered to Delphi prior to business agreement being finalized.	DOT 4 system on bike now. Foundation brakes to be burnished next week. Tires OK. Bike to be shipped by end of June.	Dudan
17	23-May-02	ABS	C			CLOSED 1/23/03		Develop timing for two production programs.	Only need to worry about 2007 consumer bike - Nissin awarded 2005 police bike business. Update: Need to develop timing for earliest available production hardware, in case H-D decides to drop Nissin for '05 police bike business. 12/5 Update: Consumer '08MY, Police '06MY.	McCready et. al.
18	23-May-02	ABS	C			Closed		Determine how to record wheel speed information on competitive tests	Will mount separate WSS's on existing speed rings.	Dudan

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
19	23-May-02	ABS	C			Closed		Look at possibility of adding frame sliders to competitive bikes.	R. Dudan has stated that frame sliders are being added to competitive bikes.	Dudan
20	23-May-02	ABS	C			Closed		Talk to Greg Crane about data crunching - what can we do, what format do we need, etc.	Plan for initial testing is for HB to provide Delphi with ASCII files.	Sonnenberg / McCready
21	23-May-02	ABS	C			CLOSED 8/22/02		Develop test matrix for BMW lean-angle compensation for hi-co.	Start with standard Delphi BIT/SWB maneuvers. Modify as necessary for speeds/lat acceleration/etc. Need to modify "step-steer" requirement. Procedure developed, need to write up and present.	Fulmer / McCready Sonnenberg
22	23-May-02	ABS	C			Closed 12/5/02		Perform testing on DBC7.2 plate or DBC7.4 HCU with DOT5 fluid to see if there are performance issues other than seal compatibility. Need to check on performance of motors when exposed to silicone-based fluid.	10/18: M. Georgin reported that room temp pump durability testing will be performed by end of October. Will include periodic performance evaluations.	Georgin
23	23-May-02	ABS	C			12-Jun-03		Send list of modeling inputs to R. Dudan so that he can provide info.	6/12/03 - Closed - covered under product action item #7 5/1/03 - Hayes to look at list by 5/5 4/23/03 - Excel file with model inputs sent to Russ	Elliott
24	23-May-02	ABS	C			CLOSED		Send R. Dudan info on Delphi instrumentation that will be added to the bikes.	Give instrumentation and info to Lee at TRC.	Sonnenberg
25	23-May-02	ABS	C			CLOSED 8/15/02		Discuss current Harley-Davidson efforts on wheel speed sensors.	HD Engineering not happy with the current ideas they're working with. Willing to look at any new proposals.	Dudan
26	23-May-02	ABS	C			Closed		Determine HD reaction to demo bike using non-DOT5 brake fluid.	Nissin is using DOT4, and H-D is willing to go with it if necessary. No known suppliers would be using DOT5 fluid.	Dudan
27	23-May-02	ABS	C			CLOSED 8/15/02		Send front wheel and rear belt sprocket drawings to Richard Brown for wheel speed sensor design.	Packaging drawings sent.	Dudan

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	OC	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
28	23-May-02	ABS	C			Closed 12/5/02		Evaluate potential to use a Delphi brake pressure sensor in the HCU for rear brake lights instead of the production brake switch. Determine if Delphi produces a pressure switch that would be more economical than the sensor.	Could potentially use extra outlet ports to mount existing brake switch. Russ Dudan (via T. Abhold) to send hardware to M. Georgan for evaluation.	Georgan
29	23-May-02	ABS	C			CLOSED		Provide Delphi with "Concurrent Product and Process Delivery Methodology."	Information provided at 6/21/02 PDT at TRC.	Dudan
30	7-Jun-02	ABS	C			CLOSED		Obtain Goldwing modulator for performance & tear down analysis and send to McCready.	Hardware given to T. McCready at 6/21/02 PDT.	Dudan
31	7-Jun-02	ABS	C			CLOSED		Provide Delphi (Marc Georgan) with raw material for lip seal development from current HB supplier. Also include material spec.	Material spec sent to Delphi, raw material not needed at this time.	Haas
32	7-Jun-02	ABS	C			CLOSED 1/23/03		Determine processing plan for police bike. Does Nissin require electrical hookup for bleed? Does H-D use degassed fluid?	H-D still evaluating degassed fluid. Nissin does require key-on after bleed to fill secondary circuit. 12/5 Update: Need to have H-D cycle ignition and top-off reservoirs after EHCU initialization / secondary fill.	Dudan
33	7-Jun-02	ABS	C			CLOSED		Perform materials testing on lip seals and O-rings to check swell with DOT 5 fluid.	Seals delivered to R. Dudan at 6/21/02 PDT. Initial results presented at 7/18, details to be emailed to team.	Dudan
34	13-Jun-02	ABS	C			CLOSED		Order 7.2 plate unit for DOT5 fluid evaluations	Unit ordered.	Mooradian
35	13-Jun-02	ABS	C			CLOSED		Build wiring harness for demo bike	Not needed - will use discrete wires.	Kopka
36	13-Jun-02	ABS	C			CLOSED		Determine spare I/O capability on ECU.	Presented at 7/18 PDT - one discrete input, one analog input.	Kopka

Hayes Brake / Delphi Action Item List								
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Responsible
37	21-Jun-02	ABS	C			Closed 10/18/02		Sonnenberg
							Create spec / work instruction for testing of competitive vehicles.	Draft finished, final revisions being made.
38	21-Jun-02	ABS	C			CLOSED		Sonnenberg
							Send info to Dudan on website for optical third wheel.	Sent website address.
39	21-Jun-02	ABS	C			Closed 10/18/02		McCready
							Send GRRF51 PDF file to team.	
40	21-Jun-02	ABS	C			Closed 8/22/02		McCready
							Discuss slots with Kopka. HB thinks a 2mm x 4mm slot would be manufacturable.	Primary solution is to use Juarez stamped WSS tone ring, no longer evaluating slotted rotor.
41	21-Jun-02	ABS	C			CLOSED 8/15/02		Georgin
							Provide seal specifications to HB so that they can make proper measurements after DOT5 compatibility testing.	
42	21-Jun-02	ABS	C			CLOSED		Georgin
							Tell Russ Dudan why there are different pump seals that were sent to him.	Same seals, go ahead and use seals from Whirl-A-Way.
43	21-Jun-02	ABS	C			CLOSED 8/15/02		Sonnenberg
							Look at service manual to see if there are any areas we should not mount the EHCUC.	Plan is to mount between swingarm and battery tray.
44	21-Jun-02	ABS	C			Closed 10/18/02		Weiss / Martens
							Obtain a 50 Hz GPS unit for demo purposes.	Report being written. Will use an optical sensor for demo bike and third wheels for the competitive evaluations.
45	18-Jul-02	ABS	C			CLOSED 8/15/02		Dudan
							Send packaging drawings to Mark Kopka in ProE format.	Drawings sent.

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
46	18-Jul-02	ABS	C			Closed 11/11/02		Send test data from fluid compatibility testing to Delphi.	Data for O-rings has been sent and evaluated by Delphi. Need to measure lip seals for swell. 11/11/02 Update: Measurements look OK. Joe Elliott will summarize data and forward to team. Seals do not appear to be a problem with DOT5 fluid.	Haas
47	1-Aug-02	ABS	C			CLOSED 8/15/02		Send list of instrumentation needs for demo bike to R. Dudan / L. Schultz.		Sonnenberg
48	15-Aug-02	ABS	C			CLOSED 8/15/02		Determine expansion coefficient for hoses used on demo bike.	.02 cc/ft @ 430psi; .10 cc/ft @ 1000psi; .14 cc/ft @ 1500psi	Haas
49	15-Aug-02	ABS	C			Closed 10/18/02		Send calipers with through-holes and longer bolts to mount WSS brackets to. Both right side calipers.	To be installed in Mequon. R. Brown needs to provide info to HB on additional tapped hole in bottom of caliper and caliper offset needed for additional spacing of tone ring.	Abhold
50	15-Aug-02	ABS	C			Closed 12/5/02		Design bracket so that natural frequency is greater than or equal to 500 Hz. Determine why sensor bracket goes outboard of sensor.	Need to keep in mind as production design constraint. No action required for development vehicle.	Brown
51	15-Aug-02	ABS	C			Closed 10/18/02		Provide brake pressure sensors to Delphi for use on demo bike (easier to package than Delphi sensors). Delphi will also need help with lever force/travel measurements. Need necessary cables/interface pieces as well.		Dudan
52	15-Aug-02	ABS	C			Closed 8/22/02		Talk to Kevin Lavigne about borrowing trailer for trip to WI.	Pick up trailer September 6th at the latest, as early as September 3rd.	Sonnenberg
53	15-Aug-02	ABS	C			CLOSED 9/5/02		Provide evac&fill data to Gwynn at H-D. Specifically, how long can vehicle sit after evac before fill.	Test was run to evaluate. After 35 days of testing, unit still held a vacuum.	Georgin
54	22-Aug-02	ABS	C			Closed 10/18/02		Talk to Russ Dudan about a trunk for demo bike instrumentation.	Not necessary. Riding in rain could be a problem, but other testing will be OK.	Sonnenberg

Hayes Brake / Delphi Action Item List							
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority
55	22-Aug-02	ABS	C			Closed 10/18/02	
				Develop bleed procedure for motorcycle.			
						Fulmer	
56	22-Aug-02	ABS	C			Closed 10/18/02	
				Talk to Mick Olson about leaving class early and maintaining certification.		Certificates obtained!!!!	
						McCreedy	
57	22-Aug-02	ABS	C			Closed 10/18/02	
				Talk to Russ Dudan about scheduling trip to Harley-Davidson in conjunction with trip to police bike school.		H-D doesn't want to talk to us until the demo vehicle is complete and ready to ride.	
						McCreedy	
58	5-Sep-02	ABS	C			Closed 10/18/02	
				Determine volume of secondary circuits on DBC7.4		3.93 cc - entire secondary circuit for HCU. 1.96cc per circuit. These values are for an 8-valve HCU. Would expect these numbers to be lower for a 4-valve HCU.	
						Georin	
59	5-Sep-02	ABS	C			Closed 10/18/02	
				Convince Brian Waller to come to TCB to fix chamber.		Matt Manning will support fixing chamber.	
						Kopka	
60	5-Sep-02	ABS	C			Closed 10/18/02	
				Provide second ECU to B. Fulmer		Second ECU on bike. Both ECU's are functional.	
						Kopka	
61	5-Sep-02	ABS	C			Closed 10/18/02	
				Talk to E. Leopahrt about adding software to control amber warning lamp and two discrete inputs on ECU.		Software has not been added yet. DU will provide information.	
						Fulmer / Kopka	
62	5-Sep-02	ABS	C			Closed 10/18/02	
				Provide Delphi shirts for H-D engineers.		Shirts given to Russ Dudan for disbursement.	
						Wan	
63	5-Sep-02	ABS	C			Closed 10/18/02	
				Talk to S. Glabach about updating SAD for Dept. 389 ("it can't be that painful")		SAD updated.	
						Kopka	

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#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
64	5-Sep-02	ABS	C			Closed 10/18/02		Create mechs of all instrumentation used on bike.	Mechs available through Mark Kopka as needed.	Kopka
65	17-Sep-02	Motorcycle	C			22-Oct-03		Set up meeting with Maribeth Sipniewski and HB (Dan Haas & Pat Bartels) to discuss correlating customer wear to general durability wear.	9/29/03 - Received schedule information from Russ. 9/3/03 - Gabe Lucas has pulled together the Harley information. 6/12/03 - Hayes working to convert Harley schedules to same format. 5/22/03 - Data sent to Dudan/Bartels 5/15/03 - Initial data summary is complete. Brett	J. Elliott
66	17-Sep-02	Motorcycle	C			12-Jun-03		Get a Harley-Davidson on the schedule for the NVH group for noise measurement and analysis.	6/12/03 - Shih-Wei is done with floating rotor analysis. Hayes may propose as a P&A application. 5/29/03 - Develop clear plan for next steps and set up review with Harley to share results and next steps. 5/19/03 - Shih-Wei sent some presentation material to Bill Jacob that shows the work to date on the	R. Brown
67	17-Sep-02	Motorcycle	C			18-Nov-02		Check with Delphi E to find out how requirements are determined for powertrain systems	11/18 - Response from Steve Butler - Specs on the ECM are also weak. H-D is relying on their suppliers to get the specifications where they need to be.	J. Elliott
68	18-Sep-02	Manufacturing	C			3-Oct-02		Set up meetings between Delphi manufacturing engineering and HB (Russ Dudan et. al.) to review manufacturing processes / methods.	10/3 - Had plant tour and meeting at Hayes 10/1 - Frank and Alex are confirmed to meet with HB on 10/3 9/26 - Frank Pirrello volunteered to go in place of Bob Campbell - Trying to coordinate dates with 2 chiefs and Hayes. 9/25 - Left message with Russ - Oct 3, 4, or 18th possible dates	J. Elliott
69	18-Sep-02	Supply Chain	C			6-Dec-02		Set up meeting with HB (Russ Dudan) and Delphi E&C purchasing to discuss suppliers, leveraging Delphi resources.	12/4 - Met with Darrell Lewis and Dale Huff 11/21 - D. Lewis would like to meet with HB - can it be scheduled with DFMEA visit in December 10/1 - Purchasing to work with business team to understand the scope of the agreement 9/30 - D. Lewis wanted a signed copy of the agreement - referred him to Bruce Beck 9/27 - Sent copy of agreement to D. Lewis for review	J. Elliott
70	18-Sep-02	Supply Chain	C			4-Dec-02		Does Delphi have a future material plan for aluminum - are we going forward with SSM, what alloys do we intend to pursue?	12/4 - Delphi decided not to pursue SSM after AEMP went out of business - went back to permanent mold with Stahl Specialty Company. For extruded parts, we are pursuing 4010 by Kaiser (extruded 356 cast alloy)	
71	18-Sep-02	Supply Chain	C			7-Feb-03		Rubber goods - who do we use as suppliers? What process do we have for incoming material validation and confirmation that we are receiving good parts from day to day.	12/4 - We get the majority of our rubber products in North America from Freudenberg NOK and some from QSR 11/21 - We can share information on our SPDP (supplier performance development process) 10/3 - HB is performing 100% visual inspection on incoming rubber materials. They would like to have their suppliers provide certified material. Need to	
72	18-Sep-02	Supply Chain	C			7-Feb-03		Can we share the supplier quality audit format with HB.	2/13/03 - R. Dudan downloaded information from the delphi.com site. 2/7/03 - Hayes is working to build SQ org. Hired Jerry Babcock as an SQE. Working to drive inspection back to their suppliers - would prefer to receive qualified materials. 12/4 - Dale Huff presented some information to Hayes	J. Elliott

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
73	18-Sep-02	Supply Chain	C			20-Mar-03		For five technologies - Can HB get preferred supplier lists, and can HB leverage Delphi in pricing activities. 1. Die casting 2. Gravity Casting 3. Rubber Products 4. Screw Machining 5. Stamping (caliper pistons) - HRS progressive die, chrome and ground How does Delphi negotiate agreements in perishable tools.	2/14/03 - We've traditionally made our own pistons. Beginning to buy these on the outside now from Niagara Piston. 2/7/03 - Elliott to follow up with Darrell Lewis about stampings - specifically caliper pistons. 12/4 - Met with D. Lewis and learned some recommended supplier names. 11/21 - Darrell can share information during Hayes 12/4 - Delphi will generally pay for 1st set of tools but supplier is required to maintain/replace their tooling 11/21 - Can discuss in December	D. Lewis
74	18-Sep-02	Supply Chain	C			4-Dec-02				
75	18-Sep-02	Motorcycle	C			1-Nov-02		Set up a meeting between HB (Bill Jacob and Corey Johnson) and Delphi NVH engineers (Mike Riehle, Shih Wei Kung) to discuss predictive techniques.	10/29 - Bill Jacob & Corey Johnson to spend time with Shih-Wei Kung to review noise analysis methodology 10/31-11/1 10/18 - Tentatively scheduled for 10/31-11/1 to work with Shih-Wei Kung in Dayton Intent is to have 1-2 weeks where HB visits Dayton to see how we handle a typical noise program - primarily software interactions	R. Brown
76	18-Sep-02	Motorcycle	C			4-Dec-02		Send example of a DFMEA & DVP&R to HB (Dan Haas, Tim Abhold)	12/4 - Had DFMEA workshop in Dayton for the future floating caliper. Got through block diagram definition and component functions. Hayes to work independently - future review will be scheduled as work is completed. 11/18 - Intended to have a DFMEA workshop on 11/14, but there was not enough time available. Tentatively have workshop scheduled for 12/4/02	J. Elliott
77	18-Sep-02	Motorcycle	C			18-Nov-02		Schedule Design review for October 22-23 in Dayton and send out agenda.	10/29 - Review complete - J. Elliott to send summary sheets to R. Duda - information on what is required for gate pass. 10/14 - Review scheduled for 10/29 at the Tech Center - Dayton Design review will be divided into 3 sections. - System (Overview, background, req'ts, modeling)	J. Elliott
78	18-Sep-02	Motorcycle	C					Model the 2007 system using BSSDOT and BrakePower to validate HB design.	1/15/04 - Close item - open new item as MEOST plan under ABS action items. 12/4/03 - Reviewed data generation plan with Hayes. Tim to send Harley usage information. 11/6/03 - Using system model to develop a MEOST plan. 9/29/03 - Received Hayes recommendations for model inputs	J. Elliott
79	18-Sep-02	Motorcycle	C			4-Dec-02		Send math model of caliper and front master cylinder (HBMC) to Delphi for review prior to Dayton design review.	12/4 - D. Haas brought enough caliper detail drawings for workshop. 11/18 - Need to have some detailed caliper information for the DFMEA workshop. 10/29 - Math model wasn't required for design review - powerpoint presentation was sufficient	D. Haas
80	3-Oct-02	Manufacturing	C			7-Feb-03		Contact Fred Smidler to get information regarding caliper/master cylinder tests in manufacturing (especially re: leak testing)	2/7/03 - Test equipment information was communicated during Saltillo plant tour.	J. Elliott
81	3-Oct-02	Manufacturing	C			7-Feb-03		Share information about seal lube techniques - types of automated equipment, materials, specifications.	2/7/03 - Test equipment information was communicated during Saltillo plant tour.	F. Pirrello

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
82	3-Oct-02	Manufacturing	C			23-Apr-03		Share information on extruded aluminum material specs/alloys for potential usage on master cylinder cartridges.	4/17/03 - Elliott to forward contact information to Matt Soik. Need phone number from Al Vennemeyer. 3/19/03 - Sent information from Al Vennemeyer to Russ. 3/6/03 - Elliott to send information from Frank Pirrello's group	F. Pirrello
83	3-Oct-02	Manufacturing	C			7-Feb-03		Share machining coolant specification with HB	2/7/03 - Material spec information passed along at Saltillo by Gerardo. One observation is that the operators are careful to manually blow off parts into the machine center cabinets to allow the mist collectors to capture the coolant. 12/16 - How is escaping mist controlled at the machining center. 10/3 - HB is using an oil based coolant - poor sum	F. Pirrello
84	3-Oct-02	Manufacturing	C			6-Mar-03		Provide information / vendor name for aluminum chip compaction equipment.	2/24/03 - E-mailed document from Chuck Peck comparing briquetting systems and the rationale behind Delphi's selection. 2/7/03 - Elliott to follow up with Frank Pirrello	F. Pirrello
85	3-Oct-02	Manufacturing	C			17-Apr-03		Look into providing an equipment specification example Kitamura machining center.	4/17/03 - Faxed technical spec for HX400i and HX500i CNC's (dated 2/14/03) to Russ. 3/20/03 - Alex has something - will be sending it out soon. 2/25/03 - Alex will put together a document for Hayes. 10/3 - HB is trying to standardize their equipment specification process - they would like to see an	A. Lee
86	3-Oct-02	Manufacturing	C			10-Apr-03		Allow HB to attend a future VSM workshop in one of our manufacturing locations.	4/10/03 - Held VSM workshop at Hayes (4/8-4/10) 3/20/03 - Bill gave some recommended dates, April 9/10 is best. Elliott to work out the details and pass information along to Hayes. 3/6/03 - Elliott to follow-up with Bill Baker. 2/25/03 - Elliott spoke to Jimmie Mills and left a message for Bill Baker to try to get Hayes team into a workshop with follow-up	J. Elliott
87	3-Oct-02	Manufacturing	C			6-Mar-03		Share details about "shot clock" for managing work cell product flow	2/25/03 - Sent information from Alex Lee to R. Dudan and M. Treager. 2/7/03 - Observation of Saltillo is that there were no shot clocks for managing work flow. The observation is that they used a "water spider" to make sure that each operation had product to work on.	A. Lee
88	3-Oct-02	Manufacturing	C			29-Sep-03		Arrange discussions between our analysis group to present math-based material removal simulation (for master cylinder cartridges)	9/29/03 - Closed action item. Opened new item #34 to cover the tryouts in Maquon. 9/15/03 - Precon purchase order has been issued - DCS 99062. Precon to contact Hayes to pass along tool detail information. 9/11/03 - Matt to order Kaiser material 9/4/03 - Precon visit to Hayes to present proposal. 10/11 begin sharing preliminary information with	J. Elliott
89	3-Oct-02	Manufacturing	C			14-Feb-03		Provide information regarding Quasar resonance inspection system.	2/14/03 - This was originally discussed in the context of checking SSM master cylinders for defects as we were helping AEMP during their shutdown. Might be good for incoming casting inspection. www.quasarintl.com	F. Pirrello
90	3-Oct-02	Manufacturing	C			8-Nov-02		Provide information on the PCDM process.	11/8 - Alex Lee provided information on the PCDM process.	A. Lee

Hayes Brake / Delphi Action Item List

#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
91	3-Oct-02	Manufacturing	C			7-Feb-03		Set up plant tour of a Delphi facility	2/7/03 - Saltillo tour occurred on 1/16/03 12/9 - Set preferred date, trying to coordinate with Alex Lee 11/18 - Have approval to visit Delphi Saltillo Mexico manufacturing facility in January. Need to coordinate date with the Hayes Brake team.	J. Elliott / Alex Lee
92	5-Oct-02	Opportunities	C			8-Apr-04		P&A Brake/Clutch Line Opportunities	quote on hoses only? 1/15/04 - Hayes to put together? source terminations overseas 12/4/03 - HB is actively looking for hose suppliers now - immediate opportunity. (Who makes fittings for Goodridge) 11/6/03 - 2006 - HB to supply Dyna front lines. Hayes is directing nine suppliers to contact	Elliott
93	18-Oct-02	ABS	C			CLOSED 3/6/2003		Talk to Dennis Grisez about logistics for Delphi / Hayes / H-D visits to TRC. Add Phoenix.	Need to find a building to work out of. Steve P. will plan for lunch.	Sonnenberg
94	18-Oct-02	ABS	C			Closed 10/30/02		Build outriggers for demo bike.	Outriggers delivered to TRC 10/30/02.	Jacob
95	24-Oct-02	Motorcycle	C			25-Oct-02		Does Delphi measure seal groove surface finish. If so, what is the spec and how do we measure. (Dan Haas)	10/25 - Received call from Larry Baldwin. Delphi does not specify seal groove finish. We only specify surface finish if we want to force a secondary operation. Left message with D. Haas with information and asked why Hates is specifying finish.	J. Elliott
96	29-Oct-02	Manufacturing	C					What are the test parameters and requirements for Delphi's master cylinder air test. - leak test high and low pressure	3/31/04 - E-mail to Matt Soik with tester information. 3/30/04 - Wendy DeShon sent the test time information. 3/25/04 - Would like to finish by next week - wed. 1/14/04 - Sequence and pressures are captured, Wendy Albrecht and Bill Van Doren working on times.	J. Elliott
97	29-Oct-02	Supply Chain	C			7-Mar-03		Have estimators look at current Hayes products and develop ballpark estimates of how much Delphi would expect it to cost.	6/12/03 - Getting quotes back from some of the Delphi recommended suppliers 3/7/03 - Had review with J. Limpach. Passed along Delphi estimate and will follow-up with Delphi parts for Hayes to study. 2/24/03 - Elliott to set up net-meeting with Hayes on 3/7/03. 2/7/03 - Should be done. Pam would like to review.	Limpach Attenweiler
98	29-Oct-02	Motorcycle	C			9-Oct-03		Can we share methodology for caliper design for taper Buckley We do symmetrical pads, pistons - Hayes generally does not - They would be very interested to know how we do it. Compare notes for component design manuals - Question was: how do you design a new lip seal from scratch.	10/9/03 - Sent design review rating sheet to Hayes (Russ, Nick Ginster). 10/8/03 - Held design review at Hayes. Action items 25, 41, 44 are the follow up items. 8/20/03 - Design review for Sept 4&5 - look at agenda for best use of time. 6/12/03 - Plan on design review for 6/26/03 with pre-meeting on 6/25. Hayes to publish meeting notice	HT Chang Schlangen
99	29-Oct-02	Motorcycle	C			4-Dec-02		Share DFMEA software from the Advanced Group (being used for the electric caliper)	12/4 - Decided to use Microsoft Excel spreadsheet version of DFMEA template. Preliminary copy was given to Hayes after workshop. 11/18 - Software will be shared during DFMEA workshop - tentatively scheduled for 12/4	Elliott

#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
100	28-Oct-02	Motorcycle	C			4-Dec-02		Delphi to review Hayes Brake DFMEA to offer suggestions	11/18 - Review will occur on at 12/4 DFMEA workshop.	Elliott
101	29-Oct-02	Motorcycle	C			7-Feb-03		Compare notes for component design manuals - Question was; how do you design a new lip seal from scratch.	2/7/03 - combined into action item #10	Schiangen
102	29-Oct-02	Motorcycle	C			4-Dec-02		Share LACT data (speeds/decel/energy profiles)	12/2 - Complete 11/18 - Working with Mike Lee to get information to Hayes Brake	MB / Gillespie
103	29-Oct-02	Motorcycle	C			4-Nov-02		Amesim contact information to Bill Jacob - for hydraulic system modeling	11/4 - Provided contact information for Russ Dudan to pass along to Bill Jacob	Elliott
104	29-Oct-02	Motorcycle	C			29-Oct-02		Give copy of quality customer interface (qci) qs9000 procedure to Hayes.	10/29 - Divisional procedure 272 given to HB after design review	Attenweiler
105	29-Oct-02	Motorcycle	C			12-Nov-02		copy of design review summary sheets	11/12 - PDR next steps e-mailed to Russ 11/6 - Design review Information faxed to Russ.	Elliott
106	29-Oct-02	Motorcycle	C			7-Feb-03		In-depth review of caliper design process / rubber expert / interaction of seals.	2/7/03 - combined into action item #10	Elliott
107	30-Oct-02	ABS	C			CLOSED 1/23/02		Develop total test plan for DOT5 fluid compatibility.	Presented to H-D 1/15/03	Elliott
108	30-Oct-02	ABS	C			CLOSED 1/9/03		Plot data per B. Fulmer's direction prior to H-D review on 11/13.		Richards

Hayes Brake / Delphi Action Item List								
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item
109	30-Oct-02	ABS	C			29-Sep-03		Understand MVSS requirements for ABS failure modes.
110	30-Oct-02	ABS	C			CLOSED 1/9/03		Determine if H-D has specific requirements for ABS on sidecar-equipped vehicles.
111	30-Oct-02	ABS	C			CLOSED 1/23/03		Discuss commercial items for ABS with Steve P. including stand-alone WSS and ECU.
112	30-Oct-02	ABS	C			CLOSED 1/23/03		Provide Russ / H-D with personal safety gear requirements for ride.
113	30-Oct-02	ABS	C			Closed 12/5/02		Work on moving 11/13 ride to somewhere warm, or make TRC a warm place.
114	30-Oct-02	Opportunities	C			7-Feb-03		Rear Pressure Control for Trailer Applications
115	6-Nov-02	Opportunities	C			7-Feb-03		Electric Rear Caliper for Motorcycle
116	11-Nov-02	ABS	C			CLOSED 1/9/03		Obtain specs that DE is using for environmental conditions.
117	11-Nov-02	ABS	C			CLOSED 1/9/03		Determine if outriggers have negatively impacted the stability of the vehicle. Understand if head shake exists without outriggers.

9/29/03 - Received
8/7/03 - Russ has latest version of ADR from H-D
7/31/03 - Harley doesn't have latest version, Elliott to order copy from DoTARS.
6/12/03 - Dan Haas to get latest version from Bjorn Christensen.
5/15/03 - Dan Haas to forward a copy of the Australian Design Rules (ADR 23 for motorcycle).
No sidecar-equipped Softail's or Dyna's.

Guidance pricing presented to H-D by Steve P.

Ride will be moved to a warm place in January.

Closed - Sent RPC specs and packaging information to J. Buckley

12/4 - Alan Lee / Mark Depoyster met with Hayes. Nothing to follow up on in the short term.
11/20 - Alan Lee would like to have informal meeting during Hayes visit to Dayton on 12/4
11/20 voice mail and e-mail to Alan Lee
11/7 sent e-mail message to Depoyster

Butler will provide summary spreadsheet of environmental conditions.

Headshake exists with and without outriggers under high decel. Stops after 3-5 seconds without ABS, but not sure what might happen with ABS due to ABS system failure.

Hayes Brake / Delphi Action Item List										
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118	14-Nov-02	Motorcycle	C			9-Dec-02		Get cost estimate for LACT on a motorcycle	11/20 - Use \$1.50 per mile (may run 1000, 3000, or 5000 mile schedules) - HB would like to understand comparison to Talladega durability and have business award prior beginning test. 11/18 - Following up with the vehicle test group	Elliott
119	14-Nov-02	Motorcycle	C			18-Nov-02		GM Foundation Braking Specification Table of Contents	11/18 - sent	Elliott
120	14-Nov-02	Motorcycle	C			22-Apr-03		Flat track noise schedule to Hayes (modified BSL-042 / Isuzu)	4/22/03 - Procedure shared with Russ. 3/20/03 - Waiting for response from Bill Myers 3/6/03 - Elliott to get copy of procedure for benchmarking purposes. 2/13/03 - Harley-Davidson has allowed Hayes to demonstrate noise improvements based on a dyno test.	Elliott
121	14-Nov-02	Motorcycle	C			23-Oct-03		VT104 Test Procedure to Hayes	10/23/03 - Sent information to Russ and Tim. 9/26/03 - Elliott to send explanation. 5/15/03 - Set up review with Hayes to talk about data filtering during next trip to Hayes. 4/17/03 - Pedal feel spec template incorporated in next version of Hayes system spec. 3/20/03 - Need to explain schedule next time at Hayes	Elliott
122	18-Nov-02	Opportunities	C			19-May-04		Tandem Master Cylinder for 4 wheeled utility vehicle	5/19/04 - HB looking at other sources. Delphi doesn't have anything small enough. 4/8/04 - Do we have any 17 or 19mm in production - send spreadsheet to Russ. 3/11/04 - Price too high, mounting not quite right. HB working on a new design. 11/6/03 - The easy-go system is being sold now? More opportunities for business upcoming	Elliott
123	5-Dec-02	ABS	C			CLOSED 1/9/03		Provide pipe requirements to T. Abhold to redo routing on demo bike.	Pipes should arrive soon.	Sonnenberg
124	5-Dec-02	ABS	C			CLOSED 1/9/03		Provide ASCII-data to M. Sonnenberg		Schultz
125	5-Dec-02	Opportunities	C					Traction Control for a snowmobile	4/14/03 - S. Pfeifenberger informed me that Pete Nelson is working with snowmobile and ATV mfg's to determine the market size for ABS. 2/7/03 - Have Polaris brake data. Waiting until H-D ABS and winter testing are done before taking next step on vehicle. 12/16 - work with Pfeil 12/15 - Requested brake and vehicle information from	Elliott
126	9-Jan-03	ABS	C			31-Oct-03		Determine minimum accumulator spring preload and rate value. As a potential improvement for hi-lo wheel recovery time.	10/31/03 - Verified that new accumulators are working properly. Baseline testing to begin 11/3. 10/23/03 - Better on Hi-Lo transitions - no touching outriggers during combined braking. Tiles tomorrow. 10/9/03 - Police bike is back together and software is verified on vehicle. TRC week of 10/13 9/23/03 - Tryout at TRC planned for week of 9/28. 9/18/03 - New UCL is being installed on Flatbed	Georgin Borgemenke Lloyd

Hayes Brake / Delphi Action Item List										
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority	Action Item	Update	Responsible
127	9-Jan-03	ABS	C			CLOSED 1/23/03		Make sure that Juarez has patents on WSS application.	Patent application filed for WSS.	McCready
128	15-Jan-03	ABS	C			CLOSED 3/6/2003		Provide Connie Stewart with "mu" information on surfaces used for development.		Sonnenberg
129	15-Jan-03	ABS	C			22-Apr-03		Provide John Baker (Platform Marketing Manager, Dyna Glide) a list of "sales features." for our ABS system.	4/22/03 - List of sales features sent to Russ. 4/3/03 - Tom & Joe to meet on Monday 4/7 1:00p 3/20/03 - McCready/Elliott to put together list prior to April ride. Scott Allman needs presentation information to put into his review for the executives. Original plan was to update prior to H-D executive ride. However, John Baker is putting together his product plans now.	McCready / Elliott
130	23-Jan-03	ABS	C			CLOSED 2/4/03		Determine if Pilot has a non-disclosure agreement with Delphi.	Sonnenberg had agreement drawn up.	Sonnenberg
131	23-Jan-03	ABS	C			CLOSED 2/4/03		Build spare modulator for ride at ATC. M12x1 1/4"ID for inlets, M10x1 3/16"ID outlets, all ISO flare.	Shipped to TCB 2/3/03	Georglin
132	23-Jan-03	ABS	C			CLOSED 2/4/03		Ship tires, rotors, and linings to ATC by 31JAN03.	Shipped	Dudan
133	23-Jan-03	ABS	C			CLOSED 2/4/03		Provide shipping address for ATC to Dudan		Sonnenberg
134	4-Feb-03	ABS	C			CLOSED 3/6/2003		Prepare ride overview - riding with outriggers, surfaces available, how to evaluate ABS, how to brake, how to ride on surfaces		Sonnenberg
135	4-Feb-03	ABS	C			CLOSED 3/6/2003		Check on polished concrete - when wet is this close to jennite?		Sonnenberg / Fulmer

Hayes Brake / Delphi Action Item List							
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority
136	4-Feb-03	ABS	C			CLOSED 3/6/2003	
							Make reservations for restaurant at Bahama Breeze.
137	7-Feb-03	Motorcycle	O		29-Apr-05		
							Lining life / noise benchmarking in LA
138	7-Feb-03	Manufacturing	C			5-May-03	
							Get details on Saltillo "target chart"
139	7-Feb-03	Supply Chain	C			14-May-03	
							Asian Suppliers
140	7-Feb-03	Motorcycle	C			12-Jun-03	
							Set up next design review
141	7-Feb-03	Motorcycle	C				
							Set up next DFMEA review.
142	20-Feb-03	Opportunities	C				
							Bearing with an integral wheel speed sensor for Harley-Davidson
143	24-Feb-03	Motorcycle	C			25-Feb-03	
							Scott Leist to get test parameters for heavy duty stroke test
144	6-Mar-03	Manufacturing	C			30-Jul-03	
							Hydropiercing of compensation and bypass holes in the master cylinder. Is this a proprietary process, what material thickness is required?
							1/6/05 - Hayes to run Jaso 427 11/18/04 - Dan to discuss with Wellman - get an estimate of time from Wellman 10/7/04 - HB to find out if Wellman has the data. 9/22/04 - Received information from Al Elger - not quite what we need. Looking for wear vs temp data. 9/16/04 - Sent JASO procedure to Dan 8/19/04 - Dan Haas to follow up. Needs Jaso 427 5/5/03 - Forwarded to Russ 4/22/03 - Left follow-up message with Gerardo Casas. 3/20/03 - Esteban Obregon is the person in Saltillo with the information. He will provide the chart when he returns from vacation on 3/24. 3/6/03 - R. Dudan going through photos from Saltillo 2/24/03 - Need to get the photo from Hayes Brake to 5/14/03 - Response sent to Charlie Parker 5/6/03 - Stanley expects to respond by early in week of 5/12. 5/5/03 - Sent follow-up message to Ellen Gu. 4/30/03 - Sent follow-up message to Stanley Wu. 4/17/03 - Charlie waiting for information (contact names / addresses). Elliott to follow up if no information by 4/25. 6/12/03 - Design review being tracked under action item #10 4/17/03 - Hayes would like to see drawings of ours for similar products to review GDT's and datums. 3/20/03 - Dudan / Elliott to map out support milestones. 2/7/03 - Elliott to put together the agenda for the next brake system design review. Timing will depend on 12/18/03 - HB to schedule review as required. 12/4/03 - Message to Nick to find out if HB is ready for review. 9/4/03 - Nick Ginster will send the current DFMEA to Elliott, Leist, and Chang. Delphi will review and return with comments. 8/20/03 - Go through caliper summary during the design review (just the highlights) 4/10/03 - Business team is interested in the product. Trying to get samples made for possible demo on next vehicle. 3/6/03 - Elliott to follow up with Hoke 2/21/03 - J. Lehnner to send math data to Sandusky 2/20/03 - Elliott spoke to Roger Hoke to find out if Sandusky team is interested in this product. 3/21/03 The heavy duty stroke test for seals (DM-728) - total of 95,000 cycles which runs at rates of 1000 cph hot and 500 cph cold - it takes 120 hours running continuously. With various down times, this test should take no longer than 7-8 days to run. The heavy duty stroke test for boots (DM-732) 6/19/03 - Message back from Conrad. Delphi is not interested in licensing the technology at this time. 6/17/03 - E-mail to Conrad Sutherland. 5/27/03 - Spoke to Pirrello, Flanagan, Sutherland. Will be discussed in 5/28 Product team meeting. 5/5/03 - Forwarded question about information sharing to Frank Pirrello
							Fulmer
							D. Haas
							J. Elliott
							J. Elliott
							Elliott
							Elliott
							Elliott / Hoke
							Leist
							J. Elliott

Hayes Brake / Delphi Action Item List									
#	Date Opened	Category	O/C	Original Due Date	Revised Due Date	Date Closed	Priority		
								Action Item	
								Update	
								Responsible	
145	6-Mar-03	Manufacturing	C			18-Sep-03		Equipment Suppliers - payment terms 9/18/02 - Send E-mail to Russ, Scott Payne, Matt Soik with terms and conditions. 9/9/03 - Urgent VME 8/7/03 - E-mail follow-up 7/17/03 - Message to Don to find out if information would be available prior to Tuesday. 6/17/03 - Spoke to Don Robinson. He is going to put together a list of the information that he can share.	A. Lee
146	6-Mar-03	Supply Chain	C					Equipment Suppliers MOVED TO MFG ACTION ITEM LIST 3/20/03 - ITEM #20 3/6/03 - Can Hayes get an example of an equipment purchase contract. Specifically, what triggers payment. Is it PPAP on site, run at rate, etc?	D. Lewis
147	6-Mar-03	Supply Chain	C			23-Oct-03		Have estimators look at current Hayes master cylinders and develop ballpark estimates of how much Delphi would expect it to cost. 12/5/03 - Resent information to Warczak, Dudan, Nelson. 9/29/03 - Sent "hbm estimate.xls" to Russ 9/26/03 - Held review. Elliott to send information to Hayes. 9/11/03 - Will be ready to review on 9/18. 8/20/03 - Schedule during the same week of design review.	Layman
148	6-Mar-03	Supply Chain	C			17-Apr-03		Long term agreements 4/17/03 - Question about right of refusal. - Pfeifferberger says OE's prefer to stay with current suppliers, but maintain right to pursue lowest cost. When OE's sent carryover products out for bid, the incumbent supplier is generally given the opportunity to match price prior to any re-sourcing activity. 4/14/03 - Had conversation with Steve Pfeifferberger. Delphi's JTA was structured based on agreements.	D. Lewis Pfeifferberger
149	6-Mar-03	Motorcycle	C			17-Apr-03		Master cylinder seals 4/17/03 - Parts received 3/20/03 - Parts didn't make it with Bruce - Layman to send directly to Hayes. 3/6/03 - J. Layman to ship some primary and secondary master cylinder seals to Hayes along with drawings that detail the piston and bore requirements. Looking at 22.2 mm m/c as the larger bore in the Hayes two stage design.	Layman
150	6-Mar-03	ABS	C			17-Apr-03		Coordinate executive ride with H-D in early April - Talladega 3/20/03 - Date has been fixed. 4/28 in Naples, FL for engineering executives, 4/29 for PPG (product planning group) Vehicles required in Florida by 4/22. Waiting for direction from S. Allman	Elliott / Dudan
151	6-Mar-03	ABS	C			29-Sep-03		Build next demonstration bike with DBC7.4 and Hayes 2006 brake proposal package. 9/29/03 - Being tracked on as item #115 9/29/03 - Received in Brighton 9/11/03 - T-Sport was borrowed back by Harley - new date? 8/7/03 - Dan Haas to make arrangements to get vehicle to Brighton. 7/31/03 - Gwyn promised a vehicle by the end of July.	Elliott / Dudan
152	6-Mar-03	ABS	C			9-Oct-03		Develop new ECU for active wheel speed sensors - rather than interface box. 9/9/03 - New wheel speed circuitry is installed on FL. Delphi now has a production program for DBC7.4 in 2005 that will require an active wheel speed sensor interface. 7/31/03 - Will be trying out new interface circuit in the lab prior to next meeting. 5/28/03 - Kopka has a simplified design to work with B3 controller, also waiting for Tuzar results on V3.	Kopka
153	6-Mar-03	ABS	C			9-Oct-03		Implement separate brake switch inputs in software to address rear only decel performance. 10/9/03 - Software verified on bench and vehicle. 10/2/03 - Layer 2 software complete. 9/22/03 - Changes in s/w required - Kevin to verify on bench prior to 9/25. 9/9/03 - Changes to layer 2 software complete. Kevin Houle to verify in lab. 7/31/03 - Fulmer and Partha Roy working on software package.	Kopka / Fulmer